# Complete Summary

## GUIDELINE TITLE

Knee.

## BIBLIOGRAPHIC SOURCE(S)

Work Loss Data Institute. Knee. Corpus Christi (TX): Work Loss Data Institute; 2003. 46 p. [50 references]

## COMPLETE SUMMARY CONTENT



## SCOPE

### DISEASE/CONDITION(S)

Work-related knee ailments, including anterior cruciate ligament (ACL) tears or strains, collateral ligament tears or strains, meniscus tears, osteochondral defects, patellofemoral syndrome, prepatellar bursitis, patellar tendonitis, effusion, and regional knee pain

### GUIDELINE CATEGORY

Diagnosis
Evaluation
Treatment

### CLINICAL SPECIALTY

Family Practice
Internal Medicine
Orthopedic Surgery

### INTENDED USERS

Advanced Practice Nurses
Health Care Providers
Health Plans
Nurses
Physicians

### GUIDELINE OBJECTIVE(S)

To offer evidence-based step-by-step decision protocols for the assessment and treatment of workers' compensation conditions

### TARGET POPULATION

Workers with knee ailments

### INTERVENTIONS AND PRACTICES CONSIDERED

1. Anterior cruciate ligament (ACL) injury rehabilitation
2. Autologous cartilage implantation (ACI)
3. Knee brace
4. Lateral pull test and patellar tilt test
5. Meniscectomy
6. Non-surgical, non-pharmaceutical intervention for patellofemoral pain syndrome (PFPS)
7. Osteochondral autograft transplant system (OATS)
8. Stretching and flexibility exercises
9. Therapeutic knee splint
10. Therapeutic ultrasound

The following interventions were considered, but are either not currently recommended or not specifically included as major recommendations:

1. Acupuncture
2. Deep transverse friction massage (DTFM)
3. Electromyographic biofeedback treatment for patellofemoral pain syndrome

### MAJOR OUTCOMES CONSIDERED

Effectiveness of treatment in relieving pain and improving function

## METHODOLOGY

### METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

### DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

## NUMBER OF SOURCE DOCUMENTS

Not stated

## METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

## RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Ranking by quality within type of evidence:

a. High Quality
b. Medium Quality
c. Low Quality

## METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

## DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

## METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

## RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

## COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

## METHOD OF GUIDELINE VALIDATION

Not stated

## DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not applicable

## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

#### Initial Diagnosis

Knee ailments are among the ten most common causes of reported work-related complaints and workers' compensation claims. Initially, the practitioner should make sure that there are no indications of a potentially serious disease or condition (red flags), the presence of which would require that the patient be referred immediately to a specialist. In the absence of such red flags, the occupational provider can safely manage the healing process.

#### Initial Evaluation

First visit: with Primary Care Physician MD/DO (100%)

- Check for serious underlying conditions often indicated by deformity or bone crepitation (fractures); displaced patella, tibia, or fibula (dislocation); severe pain with motion; infection; additional pain in the back or hip; excessive swelling; nontender mass (possibly indicating tumor); or neurovascular symptoms such as pale, cold skin; painless swelling; and/or paralysis.
- Determine the incident or incidents that caused the complaint.
- Determine whether the problem is acute, subacute, chronic, or of insidious onset.
- Determine the severity and specific anatomic location of the pain.
- Grade the patient's pain on a scale of 0-1-2-3-4-5, with 0 being no pain and 5 being high pain.
- Assess the ability of the patient to lift and carry weight, from no to full lifting ability.
- Assess the ability to climb stairs and hills.
- Determine any present medication.
- Determine any previous medical history, history of systemic disease, or history of previous knee injury, discomfort or related disability.
- Investigate non-industrial reasons that commonly exacerbate knee complaints (e.g., recreational sports or other exercise that aggravates the knee, degenerative disorders, and past acute injury).

#### Presumptive Diagnosis

- Observe the patient's walk and stance for abnormalities, including swelling, deformity, discoloration, inability to extend, and difficulty walking.
- Examine the knee in an extended position for tenderness and range of motion.
- Check for ligament stability while applying pressure with the joint slightly flexed.
- Pull the tibia forward to examine the knee at 30 degrees (Lachman test) and 90 degrees (Drawer test). Problems with both flexion and extension at once could indicate the need for surgery.
- Aspiration can be used on initial atraumatic effusions but only if there is no sign of infection.

- Anterior knee pain, popping and clicking, and possible cartilage loss (shown through magnetic resonance imaging [MRI]), are indicators of patellofemoral syndrome.
- Other anterior knee pains, along with tenderness over the patellar tendon, could be signs of patellar tendonitis.
- Swelling over the tibial tubercle could indicate Osgood-Schlatter disease, a congenital condition.
- Unexplained knee pain, semi-locking, catching, and swelling could be patellofemoral instability, which is often mistaken for a ligament injury. Patellofemoral instability is successfully treated with physical therapy.
- Neurologic condition should be assessed, especially in regard to evidence of lumbar disk disease with possible radiation to the knee.
- Immediate referral is recommended for patients with neurologic symptoms, infections, tumor, or deformity.

Initial Therapy

The first step is to reduce pain and make the patient feel comfortable, usually with nonprescription analgesics or prescribed pharmaceuticals if necessary. At-home exercises, such as bicycling and straight leg lifting, or other retraining and weight-bearing activities may aid in rehabilitation, although a physical therapist may be necessary depending on patient motivation and degree of pain. Exercise and movement have been shown to be more beneficial than total rest, but care must be taken not to overload the knee during weight bearing exercises.

Surgery

Immediate emergency surgery is usually unnecessary with knee injuries unless there is a need to drain acute effusions. Otherwise, most knee problems are greatly improved with physical methods alone. Only when exercise programs are unable to increase strength and range of motion in the knee after more than a month should surgery be considered, and even then it may not be necessary. Surgery may be considered in the following cases:

- Anterior Cruciate Ligament (ACL) Tears: The decision on whether or not to surgically repair an ACL tear should take into account the patient's work and life needs. For those whose life does not include active use or load of the knee, surgery may be unnecessary. The rehabilitation process following surgery involves six months of very intense therapy, so non-surgical recovery should be allowed to occur as much as possible before any surgery takes place. Confirmation of a complete tear in the ligament through MRI findings, clear signs of instability confirmed through the Lachman, drawer, and pivot tests, and a history of frequent falls or giving way are consistent with this condition.

| Return-To-Work "Best Practice" Guidelines |
| --- |
| Severe (tear), ACL repair, sedentary/modified work: 35 days |
| Severe (tear), ACL repair, manual/standing work: 180 days |

- Collateral Ligament Tears: Surgery is usually unnecessary; healing often occurs with rehabilitative exercises alone.
- Meniscus Tears: Patients with meniscus tears that are not severely limiting or progressive may not need surgical attention. Patients younger than 35 with clear evidence of a meniscus tear may benefit from arthroscopic partial meniscectomy or arthroscopic meniscal repair. Unlike arthroscopic partial meniscectomy, arthroscopic meniscal repair is able to preserve meniscal function, although recovery time is longer. For older patients with degenerative tears possibly indicating osteoarthritis, surgery is not beneficial.

Return-To-Work "Best Practice" Guidelines

Without surgery, clerical/modified work: 2 days

Without surgery, manual/standing work: 21 days

With arthroscopy, clerical/modified work: 14 days

With arthroscopy, manual/standing work: 42 days

With arthrotomy, clerical/modified work: 28 days

With arthrotomy, manual/standing work: 56 days

With arthrotomy, heavy manual/standing work: 84 days

- Osteochondral Defects: Studies are still being done to test the effectiveness of osteochondral autograft transplant system (OATS) procedures for osteochondral defects. Patients under 40 years old with active lifestyles may benefit from OATS, and the procedure may delay the development of osteoarthritis.
- Patellofemoral Syndrome (PFS): While commonly treated with arthroscopic patellar shaving, this procedure is not proven in terms of long-term improvement. In cases of severe patellar degeneration, surgery is usually not helpful. For patients with rheumatoid conditions, patellectomy and patellar replacements are sometimes performed on active patients. Other possible surgeries for patellofemoral syndrome are lateral arthroscopic release and surgical realignment of the extensor mechanism.

Return-To-Work "Best Practice" Guidelines

Arthroscopy, clerical/modified work: 7--10 days

Arthroscopy, manual work: 28 days

Arthroscopy, debridement of cartilage, clerical/modified work: 7--14 days

Arthroscopy, debridement of cartilage, manual work: 30 days

Arthrotomy, clerical/modified work: 21 days

Arthrotomy, manual work: 49 days

### CLINICAL ALGORITHM(S)

None provided

## EVIDENCE SUPPORTING THE RECOMMENDATIONS

### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

During the comprehensive medical literature review, preference was given to high quality systematic reviews, meta-analyses, and clinical trials over the past ten years, plus existing nationally recognized treatment guidelines from the leading specialty societies.

The type of evidence associated with each recommended or considered intervention or procedure is ranked in the guideline's annotated reference summaries.

Ranking by Type of Evidence:

1. Systematic Review/Meta-Analysis
2. Controlled Trial–Randomized (RCT) or Controlled
3. Cohort Study--Prospective or Retrospective
4. Case Control Series
5. Unstructured Review
6. Nationally Recognized Treatment Guideline (from www.guideline.gov)
7. State Treatment Guideline
8. Foreign Treatment Guideline
9. Textbook
10. Conference Proceedings/Presentation Slides

## BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

### POTENTIAL BENEFITS

These guidelines unite evidence-based protocols for medical treatment with normative expectations for disability duration. They also bridge the interests of the many professional groups involved in diagnosing and treating work-related knee ailments.

### POTENTIAL HARMS

Not stated

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Getting Better

### IOM DOMAIN

Effectiveness

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

Work Loss Data Institute. Knee. Corpus Christi (TX): Work Loss Data Institute; 2003. 46 p. [50 references]

### ADAPTATION

Not applicable: The guideline was not adapted from another source.

### DATE RELEASED

2003

### GUIDELINE DEVELOPER(S)

Work Loss Data Institute - Public For Profit Organization

### SOURCE(S) OF FUNDING

Not stated

### GUIDELINE COMMITTEE

Not stated

### COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

## FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

## GUIDELINE STATUS

This is the current release of the guideline.

## GUIDELINE AVAILABILITY

Electronic copies: Available to subscribers from the Work Loss Data Institute Web site.

Print copies: Available from the Work Loss Data Institute, 169 Saxony Road, Suite 210, Encinitas, CA 92024; Phone: 800-488-5548, 760-753-9992, Fax: 760-753-9995; www.worklossdata.com.

## AVAILABILITY OF COMPANION DOCUMENTS

Background information on the development of the Official Disability Guidelines of the Work Loss Data Institute is available from the Work Loss Data Institute Web site.

## PATIENT RESOURCES

None available

## NGC STATUS

This summary was completed by ECRI on February 2, 2004. The information was verified by the guideline developer on February 13, 2004.

## COPYRIGHT STATEMENT



Date Modified: 11/15/2004